

**Commonwealth of Kentucky  
Division for Air Quality**

**PERMIT APPLICATION SUMMARY FORM**

Completed by: Kenvirons, Inc.

GENERAL INFORMATION:

Name:	Kentucky Utilities Company - Ghent Generating Station
Address:	Carroll County, U.S. Highway 42, Ghent, Kentucky
Date application received:	June 8, 2004
SIC/Source description:	4911/Electric Power Generation
Source I.D. #:	021-041-00010
Source A.I. #:	704
Activity #:	APE2004002
Permit number:	V-05-043

APPLICATION TYPE/PERMIT ACTIVITY:

<input type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__Administrative	<input checked="" type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input checked="" type="checkbox"/> Operating
<input checked="" type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input checked="" type="checkbox"/> NSR	<input checked="" type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input checked="" type="checkbox"/> PSD	<input checked="" type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Netted out of PSD/NSR	<input checked="" type="checkbox"/>	

MISCELLANEOUS:

- ☒ Acid rain source
- ☒ Source subject to 112(r)
- ☐ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☐ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

<b>Pollutant</b>	<b>2004 Actual Emissions (tpy)</b>	<b>Title V Potential Emissions (tpy)</b>
PM <sub>10</sub>	503	1850
SO <sub>2</sub>	51406	103850
NO <sub>x</sub>	14002	21815
CO	1605	1967
VOC	187	236
HAP ≥ 10 tpy (by CAS)		
HCl (7647-01-0)	4250	6064
HF (7664-39-3)	256	366

SOURCE PROCESS DESCRIPTION:

The Ghent Generating Station is an electric utility producing electricity from four coal-fired indirect heat exchangers. The Ghent Station currently operates under Title V Permit No. V-97-025 issued December 1999. The facility is classified as a Title V major source of air pollution, based on the potential to emit more than 100 tpy of PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, and volatile organic compounds (VOC). Ghent also has the potential to emit more than 10 tpy of single hazardous air pollutants (HAP), HCL and HF, and more than 25 tpy total HAP.

The permittee has an existing Phase II Acid Rain Permit No. A-98-016 allocating SO<sub>2</sub> allowances and limits NO<sub>x</sub> emissions for individual heat exchangers.

The Ghent Station is submitting an application to renew permit V-97-025 with minor modifications to the facility. These modifications are classified as either pollution control projects or insignificant activities. The Title V permit renewal application includes Compliance Assurance Monitoring (CAM) plans for emissions of PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> from the heat exchangers and several material handling sources as required.

The facility modifications are designed to decrease emissions of SO<sub>2</sub> from the heat exchangers. The modification will result in minor emissions increase of PM<sub>10</sub> from the installation of material handling equipment of approximately 11.2 tpy; this is less than PSD significant net increase level. The Ghent Station's modifications to the facility are as follows:

Description of Modification	Date of Application	Type of Modification
1. Inclusion of gypsum storage pile into permit	June 2002	Insignificant Activity
2. Installation of a propane heater rated at less than 1 mmBTU/hr	August 2002	Insignificant Activity
3. Removal of Emission Unit 20, Fly Ash Silo, completely removed from property.	June 2004	N/A
3. Installation of wet flue gas desulfurization units for Emission Units 2, 3, and 4	January 2005	Minor Modification
4. Installation of two stacks and/or modification of existing stacks	January 2005	Minor Modification
5. Installation of additional limestone handling and preparation equipment	January 2005	Minor Modification
6. Installation of additional gypsum handling equipment	January 2005	Minor Modification
7. Facility upgrades and possible relocation of Unit 2 cooling tower	January 2005	Minor Modification

**EMISSION AND OPERATING CAPS DESCRIPTION:**

N/A

**OPERATIONAL FLEXIBILITY:**

The Ghent Station has installed a wet flue gas desulfurization (WFGD) unit on Emission Unit 1, and proposes to install WFGDs on Emission Units 2, 3, and 4 between 2005 and 2010. Due to the presence of condensed water vapor when the WFGDs are in operation, representative COM data cannot be obtained to fulfill the periodic monitoring requirements for opacity and particulate matter. For Emission Unit 1, the Ghent Station is required to install and operate a particulate matter continuous emissions monitoring system (PM-CEMS) within one year of permit issuance. For Emission Units 2, 3, and 4, an Alternate Operating Scenario is listed in Section H of the permit to fulfill the periodic monitoring requirements for opacity and particulate matter for these units when the WFGDs are installed and operational. This alternate operating scenario specifies the use of PM-CEMS to fulfill the applicable monitoring requirements after WFGD installation.